



CNO 20% T&E Cost Reduction Initiative

***Test Planning and
Execution Working
Group
ROADMAP BRIEF***



TP&E WG Charter

- **Group Mission: Identify test planning and execution efficiencies and improvements to implement while optimizing solutions across acquisition.**



TP&E Work Group Members

- COTF
- PEO(T)
- PEO(SHIPS)
- N912
- NAVAIR 4.0
- NSWC
- NUWC
- DOT&E



TP&E WG objectives

- Objectives:
- Develop a plan of action and milestones (POA&M) for improvements in test, planning and execution.
- Identify labor and support requirements.
- Identify role of and relationships between inter-and intra-groups.
- Identify metrics for process improvement and cost reductions.
- Develop and propose solutions to include new methods and investment need.
- Establish mechanisms for information exchange within this effort.



Workgroup Assumptions

- All instructions are reviewable/revisable
- Information sharing among commands will be shared
- Resources will be identified to execute the roadmap
- Policy change will take time
- CNO will provide horsepower and we will have Navy endorsement
- Solutions may cost money
- OSD will support
- Industry buy-in



TP&E Cost Drivers

- **Cost Drivers identified during TP&E working group meetings:**
 - **TEST PROCESSES**
 - Reduce/Eliminate redundant testing.
 - Excessive time required to reduce/analyze data and issue reports.
 - Lack of automated data reduction tools
 - Difficult to plan/coordinate T&E on complex systems.
 - Technology insertion is driving significant levels of regression testing
 - Software testing is becoming more complex
 - Preparing systems to succeed in testing is expensive
 - Live weapons testing is expensive (Policy WG)
 - Shock trials are expensive
 - Failure during testing is expensive to the program
 - Expense of LFT&E and Alternative LFT&E



Cost Drivers (cont)

- Missed T&E synergy with training, experimentation (Sea Trial) and acquisition T&E drives up cost of individual programs
- Interoperability certification testing is expensive
- Configuration changes during testing drive regression testing drives cost and schedule
- A lack of data sharing, management, maintenance/archival and lessons learned among programs/organizations drives cost
- Policy may define unnecessary test events (Policy WG)
- **Assessment of Program Maturity**
- **Schedule volatility drives test cost**
- **Requirements & Regulations**
- Failure of synchronization of test programs between different, but linked acquisition programs drives overall cost of T&E.
- Statistical confidence drives a large number of test articles.



Cost Drivers (cont)

- **Test Planning**
- Adequacy and clarity of Test Objectives.
- New external requirements (e.g. Net ready KPP) added after test program is baselined.
- The late receipt of a test plan or late changes to a test plan cause unanticipated cost growth to the test program.
- Insufficient realism in DT to support resolution of COI's
- Lack of T&E metrics reduces efficiency gains. Many T&E efforts fail to adequately define/document metrics and data analysis resulting in redundant/overlapping testing.
- **Test Resources & Infrastructure**
- Lack of reusability of land-based facilities. (Cost/Resource WG)
- Lack of adequate T&E infrastructure (geographically) can impact ability to conduct test events in a cost effective manner (emphasis on ship testing).
- Lack of planning for and use of shared resources for CT/DT/OT.
- Availability of fleet T&E assets dependent upon the FRP and surge operations.
- Ranges clearance assets.



Cost Drivers (cont)

- **Modeling and Simulation**
- **Lack of Fidelity of Models and Simulations drives costs due to live testing requirements (M&S WG)**
- **Safety**
- **Range Clearance functions are inconsistent and costly (Policy WG)**
- **The infrastructure associated with flight termination systems is costly and beaurocratic. (Policy/Resource WG)**
- **Current policy and culture in the current flight clearance process is burdensome on the T&E planning process. (PGM Risk MGMT WG)**
- **TRAINING/EXPERTISE**
- **Loss of institutional knowledge and experience leads to a reduced ability to plan and execute tests efficiently. This includes both government and industry personnel. (PGM Risk MGMT WG)**
- **Communication**
- **Ineffective communication between the OTA and program office creates inefficiencies in test planning and execution due to increased levels of conflict resolution required to solidify TEMPS and Test Plans.**
- **Resources (workforce)**
- **Cost of traveling to remote locations to participate in meetings and tests expends funding which could be used to perform other functions (Resource)**



TP&E Roadmap WBS

Snapshot

S E L E M E	DESCRIPTION (Issue/Task)	DETAILS/Potential SOLUTIONS	COST (\$, \$\$, \$\$\$)	TIME (N / M / L)	IMP FASE (L/ M/ H)	RESPONSIBILITY
1	TEST PROCESSES					
		There is redundant testing when test efforts are not fully integrated between CT, DT and OT. Investigate Integrated Test and Evaluation.	\$\$\$	N/M	M	COTF
1.1	Reduce/Eliminate redundant testing.					
		Data reduction issues across various Naval T&E programs. Frequency, average delay and Impacts of delayed technical reports on program execution. Significant contribution to delayed reporting due to bureaucracy within the organizations that prepare and issue reports. Solutions may include standardized automated data collection reduction/analysis tools, eliminate/simplify some reports, streamlined reporting processes and ease in products.	\$	N	M	NSWC-PHD
1.2	Excessive time required to reduce/analyze data and issue reports.					
1.3	Lack of automated data reduction tools	Absorbed Under 1.2 Improve/standardize the process for planning & execution of complex systems (e.g. SoS, FoS) by creating a detailed process for combined testing for schedule, resources and requirements planning. Identify a focal point for managing this process similar to PEO IWS model with Dean Kimmelheim.	\$\$\$	M/L	M	PEO-IWS
1.4	Difficult to plan/coordinate T&E on complex svstems.	* related to task 9.2. Compression of timeline that spiral development presses on the T&E community questions the amount of regression testing required to validate the functionality of the new increment capability as well as determine the disturbance of existing functionality. How much regression testing is required due to parts obsolescence? Develop process for determining level of regression testing based upon the technology insertion/refresh. Solution should cover both effectiveness and suitability issues.	\$\$\$	M	M	NAVAIR
1.5	Technology insertion is driving significant levels of rearession testina					



TP&E WORKING GROUP “ROADMAP”

